Table of flood stages during September 1934

[All dates are in September]

River and station	Flood stage	Above flood stages—dates From—	Above flood stages—dates To—	Crest Stage	Crest Date
ATLANTIC SLOPE DRAINAGE					
	Feet			*Feet*	
Schuykill: Reading, Pa	10	30	30	10.5	30
James: Columbia, Va	18	17	17	19.8	17
Roanoke:					
Weldon, N. C	31	9	10	36.9	9
		18	20	34.7	19
Williamston, N. C	10	13	27	11.0	23, 24
Tar: Greenville, N. C	12	20	22	12.8	21
Neuse:					
Neuse, N. C	13	17	20	15.4	19
Smithfield, N. C	12	18	21	13.5	20
Cape Fear: Elizabethtown, N. C	20	18	19	22.3	19
		1	2	13.9	2
Santee: Rimini, S. C	12	19	21	13.3	19
		27	27	12.2	27

Table of flood stages during September 1934—Continued

River and station	Flood stage	Above flood stages—dates From—	Above flood stages—dates To—	Crest Stage	Crest Date
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
	Feet			*Feet*	
Wisconsin: Knowlton, Wis	12	27	27	12.0	27
Bourbeuse: Union, Mo	12	15	17	14.1	16
Meramec:					
Pacific, Mo	11	15	18	17.8	17
Valley Park, Mo	14	16	19	18.0	18
Arkansas Basin					
Purgatoire: Higbee, Colo	4	15	15	11.0	15
North Canadian:					
Canton, Okla	5	10	10	5.5	10
Yukon, Okla	7	2	2	7.7	2
		10	11	7.6	10
Arkansas: Fort Lyon, Colo	6	15	15	9.4	15

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, W. F. McDonald, in charge]

NORTH ATLANTIC OCEAN

By H. C. HUNTER

Atmospheric pressure.—The pressure averaged moderately higher than normal over most of the southeastern and northwestern parts of the North Atlantic; but considerably lower than normal in the northeastern, where Reykjavik, Iceland, was 0.22 inch below normal. Otherwise the departures of average pressure were very small.

Over the ocean no pressure reading was noted higher than that of 30.51 inches on the German liner *Bremen*, about noon of the 14th, in latitude 44° N., longitude 43° W. The lowest pressure, 28.15 inches, was encountered by the Swedish motorship *Blankaholm*, at 11 p. m., the 27th, in 57° N., 23° W.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, September 1934*

Stations	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland	29.68		30.00	6, 16	29.37	24, 26
Reykjavik, Iceland	29.50	−0.22	30.15	5	28.87	26
Lerwick, Shetland Islands	29.76	−.08	30.33	13	29.37	24
Valencia, Ireland	29.81	−.18	30.32	12	29.45	3
Lisbon, Portugal	30.13	+.11	30.48	1	29.97	6
Madeira	30.11	+.09	30.44	20	30.01	8
Horta, Azores	30.15	−.02	30.40	1	29.92	5, 27
Belle Isle, Newfoundland	30.06	+.16	30.46	22	29.48	28
Halifax, Nova Scotia	30.20	+.15	30.54	1	29.74	19
Nantucket	30.11	+.03	30.49	1	29.69	18
Hatteras	30.04	−.02	30.26	1	29.26	8
Bermuda	30.12	+.04	30.28	9	30.04	12, 13, 17, 18
Turks Island	29.98	.00	30.04	9, 10, 23	29.92	12, 13
Key West	29.96	+.02	30.12	23	29.84	7
New Orleans	30.01	+.03	30.19	1	29.84	15

NOTE.—All data based on a. m. observations only, with departures compiled from best available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

Cyclones and gales.—During the first 10 days, storm activity affected two widely separated parts of the North Atlantic Ocean. One of these was situated between the thirtieth meridian and the Irish, English, and French coasts; the other between the American coast south of New England and the sixty-fifth meridian. On the 2d, reports of fresh to strong gales came from waters within about 500 miles southwest of Ireland, while on the same day a Low of moderate energy was approaching the Carolinas from the southeast, to move inland and northward on the following day. After a brief interval without gales, a tropical cyclone appeared near the Bahamas, and on the 6th a whole gale (force 10) was encountered by the American steamship *Syros*, then about 100 miles northeast of Great Abaco Island. The next day a like force was noted by the American steamship *West Texas*, when approximately 170 miles south of Cape Hatteras (chart VIII).

Early on the 8th the center of this storm passed very close to Hatteras and thereafter continued to move northward and slightly eastward. The task of rescue from the burning American liner *Morro Castle*, off the New Jersey coast, was hampered by the strong winds connected with this storm; but fortunately it was practically completed before the greatest force occurred, the Sandy Hook station showing its highest velocity, 65 miles, between 8 and 9 p. m. of the 8th.

Two vessels near the coast between Cape Hatteras and Cape May encountered winds of force 12 on the 8th, in each case from a southwesterly point. The American steamer *Solana* met the greatest force about 7 a. m., near latitude 36° N., and the Dutch steamer *Amor* about 3 p. m., near 38°. Late on the 8th the storm center moved inland over southern New England and lost strength rapidly.

About this time several vessels encountered gales along the eastern portion of the steamship lanes to northern Europe; the greatest force there at this time was 10 (whole gale), met by the Dutch liner *Statendam* during the afternoon of the 9th, about 51° N., 26° W.

During the remainder of the month no storm worth mention affected the waters near the Atlantic and Gulf coasts of the United States; and the whole North Atlantic during the period from the 14th to 22d, inclusive, was almost free from gales, except that a small-area storm of marked strength (force 11) but with no particularly low barometric reading, was met about 2 p. m., on the 18th, between Bermuda and Fayal, by the American steamship *Yaka*. No report other than that from the *Yaka* has been received relating to this storm.

The final week of September included a moderate number of storm reports, nearly all these gales being met

between the forty-third and sixtieth parallels and the twentieth and fortieth meridians. The British tanker *Lustrous* noted force 12 late on the 25th, when at about 45° N., 23° W. Two other vessels noted force 10 about that time, in positions considerably northwestward from the *Lustrous*. Chart IX shows the situation on the morning of the 26th.

Tropical storms.—Mention has been made of the tropical storm which was near the Bahama Islands on the 6th. This was apparently of minor importance till it had moved north of the Tropic of Cancer. Also the less important storm in about the same region a few days earlier has been mentioned; but this probably did not even start south of the Tropic. About the middle of the month a depression was noted to be moving northwestward, passing close to the Virgin Islands, but it seems never to have reached marked strength, and by the 21st, between the Bahamas and Bermuda, it ceased to be identifiable. One radio report indicated force 9 on the 17th, in connection with this storm, but no mail report of more than force 7 has come to hand. Other than these, North Atlantic waters south of latitude 30° seem to have had no storm of any consequence during September.

Fog.—While there seems to have been comparatively little fog in the steamship lanes east of the thirty-fifth meridian, reports indicate that over and near the Grand Banks there was generally a little more fog than is usual during September. The 5° square, 45° to 50° N., 45° to 50° W., took the lead in this area, having fog on 10 days; it was especially prevalent during the third week. Near the American coast several squares had considerably more than normal occurrence of fog, the square 40° to 45° N., 65° to 70° W., reporting 16 days.

WATERSPOUT OVER CHESAPEAKE BAY, SEPTEMBER 12, 1934

[Abstract of a report by John J. Murphy, in charge of Weather Bureau Office, Norfolk, Va.]

Between 10:06 and 10:21 a. m. September 12, 1934, a fully developed waterspout was observed over Lynnhaven Roads, in extreme lower Chesapeake Bay, about a mile off shore, and 10 to 12 miles east-northeast of Norfolk. It formed beneath a heavy cumulo-nimbus cloud out of which rain was falling, traveled at a rate of about 10 m. p. h. in a westerly or northwesterly direction, and rotated counterclockwise.

The spout was located at some distance in front of the rain sheet which accompanied the thundercloud. Formation of the spout was not observed, but its disappearance began with a break at a point in midair, between cloud and water surface. By a fortunate coincidence, Lt. Critchfield Adair, United States Navy, was aloft in an airplane near the scene, and he flew to and circled the formation to make careful observations. He is quoted in the Norfolk Virginian-Pilot of September 13, as follows:

"The spout's top ended in the clouds, 1,000 feet above the water. Dark and funnel-shaped, it appeared to me to be based in a white ball of spray 125 feet in diameter. A little higher it narrowed abruptly to about 30 feet and spread out to about 100 feet in diameter at the top."

Lieutenant Adair is also reported to have observed that the moving spout left a sharp and well-defined wake on the surface of the bay. Observers on shore described the sea surface as greatly agitated at the base of the spout, with spray carried to an estimated height of 50 feet.—*W. F. McD.*

OCEAN GALES AND STORMS, SEPTEMBER 1934

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN			° ′	° ′				*Inches*					
Black Gull, Am. S. S.	Antwerp	New York	50 24 N.	23 40 W.	Sept. 2	4a, 2	Sept. 2	29.08	WSW.	W, 9	W	W, 9	WSW-W.
Pastores, Am. S. S.	Port-au-Prince.	do	31 18 N.	74 24 W.	Sept. 1	4a, 2	do	29.77	N	NE, 9	NE	NE, 9	
Nubian, Br. S. S.	Antwerp	do	49 57 N.	15 00 W.	Sept. 2	4p, 2	do	29.37	WSW.	W, 8	W	W, 8	WSW-W.
Silvercedar, Br. M. S.	Nassau, Bahamas.	London	[1] 48 16 N.	21 54 W.	Sept. 1	8p, 2	Sept. 3	29.56	SW	W, 8	W	W, 9	Steady.
Amor, Du. S. S.	Maracaibo	New York	32 44 N.	76 20 W.	do	9p, 2	Sept. 1	29.73	NNW.	NW, 6	NNE.	NNE, 9	NNW-NW-SW.
Washington, Am. S. S.	New York	Cobh	50 40 N.	18 00 W.	Sept. 2	Noon, 3.	Sept. 2	29.58	NW	W, 7	NW	NW, 8	None.
Marguerite Finaly, Fr. M. S.	Havre	Cartagena	46 00 N.	12 30 W.	Sept. 5	2a, 6	Sept. 6	29.58	SE.	SSE, 9	SW	SE, 10	SE-SSE-SW.
Syros, Am. S. S.	Antwerp	Tampico	26 52 N.	75 19 W.	do	6p, 6	do	29.71	SE.	SE, 8	SE.	SE, 10	None.
Java Arrow, Am. S. S.	New York	Texas City	29 10 N.	78 00 W.	Sept. 7	6a, 7	Sept. 7	29.53	ENE.	E, 5	NE	ENE, 9	E-N.
Orizaba, Am. S. S.	do	Habana	29 36 N.	77 24 W.	do	11a, 7	do	28.92	E	W, 7	W	E, 9	E-W.
West Texas, Am. S. S.	Philadelphia.	Houston	32 30 N.	76 20 W.	do	9p, 7	Sept. 8	29.16	E	E, 3	S	SE, 10	E-SE-S.
Sapinero, Am. S. S.	Houston	Lisbon	33 51 N.	75 52 W.	do	2a, 8	do	29.43	ENE.	Calm	W	E, 9	SE-N-NW.
Solana, Am. S. S.	Fall River	Houston	36 10 N.	74 33 W.	Sept. 8	6a, 8	do	29.17	SE.	SW, 12	WSW.	WSW, 12.	ESE-SW-WSW.
Amor, Du. S. S.	New York	Curacao	[1] 37 50 N.	73 00 W.	do	3p, 8	do		SE.	SSW, 10	SW	SW, 12	S-SW.
Vacuum, Am. S. S.	do	Beaumont	39 40 N.	73 30 W.	do	6p, 8	do	29.37	ENE.	S, 9	SSW	S, 9	ENE-S-WSW.
Pres. Roosevelt, Am. S. S.	Cobh	New York	49 54 N.	24 54 W.	Sept. 9	2p, 9	Sept. 10	29.27	SW	W, 8	W	W, 8	SW-W.
Statendam, Du. S. S.	New York	Rotterdam	50 46 N.	26 31 W.	do	4p, 9	do	29.01	WSW.	WSW, 9	W	W, 10	WSW-W.
Emile Francqui, Belg. S. S.	Antwerp	New York	50 39 N.	23 47 W.	do	6p, 9	Sept. 9	29.24	SW	SW, 8	W	SW, 8	SW-W.
Spidoleine, Belg. M. S.	do	do	42 18 N.	55 43 W.	Sept. 12	8a, 11	Sept. 12	29.89	ENE.	W, 4	NNE.	ENE, 9	S-W.
Adria, Ger. M. S.	Danzig	Baltimore	58 42 N.	8 48 W.	Sept. 11	—, 11	Sept. 13	29.60	SSW.	SSW, 9	SSW	S, 10	None.
Scanpenn, Am. S. S.	New York	Copenhagen	48 10 N.	50 00 W.	do	2a, 12	Sept. 12	29.80	NNW.	N, 8	NW	NNW, 9	WNW-N-NW.
Europa, Ger. S. S.	Cherbourg	New York	48 48 N.	27 12 W.	Sept. 12	7a, 12	do	29 51	S	SSW, 8	WSW.	S, 9	S-SSW-NW.
Adria, Ger. M. S.	Danzig	Baltimore	55 30 N.	27 54 W.	Sept. 14	10a, 15	Sept. 14	29.67	SW	W, 2	SW	SW, 9	None.
Cavina, Br. S. S.	Avonmouth	Barbados	14 32 N.	58 24 W.	Sept. 15	8p, 15	Sept. 16	[2] 29.93	ENE.	NNE, 7	NW	NNE, 7	NE-N.
Volendam, Du. S. S.	New York	Rotterdam	50 07 N.	6 22 W.	Sept. 17	4a, 17	Sept. 17	29.50	S	S, 8	S	S, 8	None.
Yaka, Am. S. S.	Havre	Panama City, Fla.	35 00 N.	49 30 W.	Sept. 18	2p, 18	Sept. 18	30.10	SW	WSW, 11	WSW.	WSW, 11	SW-WSW.
Gripsholm, Swed. M. S.	Gothenburg	New York	53 55 N.	35 38 W.	Sept. 22.	Mdt. 24.	Sept. 25	29.27	WNW.	WNW, 10	NW	WNW, 10	WSW-WNW-NW.
Caledonia, Br. S. S.	Glasgow	Boston	54 18 N.	26 54 W.	Sept. 24	9a, 25	Sept. 26	28.94	W	SW, 10	W	SW, 10	SW-W.
Lustrous, Br. S. S.	Preston	Port Arthur	44 45 N.	23 09 W.	Sept. 25	6p, 25	Sept. 25	[2] 29.32	SW	WSW, 11	NNW.	NW, 12	WSW-NW.
Caledonia, Br. S. S.	Glasgow	Boston	[1] 51 05 N.	41 02 W.	Sept. 27	11a, 27	Sept. 27	29.83	NNW.	WNW, 7	NW	NW, 9	Steady.
Blankaholm, Swed. M. S.	Kotka, Finland.	Portland, Maine.	57 21 N.	23 30 W.	do	Mdt., 27.	Sept. 28	28.15	SSE.	SSE, 4	WNW.	SSE, 9	SSE-WSW.
Slemmestad, Nor. M. S.	Copenhagen	Montreal	59 19 N.	23 47 W.	do	Noon, 28.	Sept. 29	28.64	SSE.	ESE, 6	NW	SSE, 9	SE-NE-N.

[1] Position approximate.
[2] Barometer uncorrected.